

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Guy A. Rouleau and Bernard Brais

Serial No.: 09/590,211

Group Art Unit: 1632

Filed: June 8, 2000

Examiner: J. Woitach

Confirmation No.: 9680

For: SHORT GCG EXPANSIONS IN THE PAB II GENE FOR  
OCULOPHARYNGEAL MUSCULAR DYSTROPHY AND  
DIAGNOSTIC THEREOF

CERTIFICATE OF MAILING	
I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as First Class Mail in an envelope addressed to Assistant Commissioner for Patents, Box Sequence, P.O. Box 2327, Arlington, VA 22202	
on <u>9/18/02</u>	<u>Christina McSweeney</u>
Date	Signature
<u>Christina McSweeney</u>	
Typed or printed name of person signing certificate	

TRANSMITTAL OF SECOND SUBSTITUTE SEQUENCE LISTING

Assistant Commissioner for Patents  
Box Sequence, P.O. Box 2327  
Arlington, VA 22202

Sir:

Transmitted herewith is a copy of a Second Substitute "Sequence Listing" in paper form (sheets 1/6 through 6/6) for the above-identified patent application as required by 37 C.F.R. §§ 1.825(a) and 1.821(c), and a copy of the Second Substitute "Sequence Listing" in computer readable form as required by 37 C.F.R. §§ 1.825(b) and 1.821(e).

As required by 37 C.F.R. § 1.825(b), Applicant's Attorney hereby states that the contents of the Second Substitute "Sequence Listing" in paper form and in the computer

#14 P 10/9/02  
RECEIVED  
SEP 24 2002  
TECH CENTER 1600/2800

readable form submitted herewith are the same and, as required by 37 C.F.R. § 1.825(a), also states that the submission includes no new matter.

Respectfully submitted,

HAMILTON, BROOK, SMITH & REYNOLDS, P.C.

*David E. Brook, R.N. 22592*

By *for Elizabeth W. Mata*

Elizabeth W. Mata

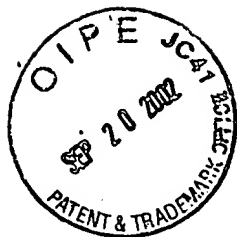
Registration No. 38,236

Telephone: (978) 341-0036

Facsimile: (978) 341-0136

Concord, MA 01742-9133

Date: *9/18/02*



1/6

SEQUENCE LISTING

<110> Rouleau, Guy A.  
Braiss, Bernard

<120> SHORT GCG EXPANSIONS IN THE PAB II GENE  
FOR OCULOPHARYNGEAL MUSCULAR DYSTROPHY AND DIAGNOSTIC THEREOF

<130> 3028.1000-000

<140> 09/590,211

<141> 2000-06-08

<150> PCT/CA98/01133

<151> 1998-12-07

<150> 2,218,199

<151> 1997-12-09

<160> 21

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 30

<212> DNA

<213> Homo sapiens

<400> 1

atggcggcgg cggcggcggc ggcagcagca

30

<210> 2

<211> 24

<212> DNA

<213> Homo sapiens

<400> 2

atggcggcgg cggcggcggc ggca

24

<210> 3

<211> 27

<212> DNA

<213> Homo sapiens

<400> 3

atggcggcgg cggcggcggc ggcggca

27

<210> 4

<211> 30

<212> DNA

<213> Homo sapiens

<400> 4

atggcggcgg cggcggcggc ggcggcggca

30

<210> 5

<211> 33

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5

atggcggcgg cggcggcggc ggcggcggcg gca

33

&lt;210&gt; 6

&lt;211&gt; 36

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 6

atggcggcgg cggcggcggc ggcggcggcg gcggca

36

&lt;210&gt; 7

&lt;211&gt; 39

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 7

atggcggcgg cggcggcggc ggcggcggcg gcggcggca

39

&lt;210&gt; 8

&lt;211&gt; 42

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 8

atggcggcgg cggcggcggc ggcggcggcg gcggcggcgg ca

42

&lt;210&gt; 9

&lt;211&gt; 45

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 9

atggcggcgg cggcggcggc ggcggcggcg gcggcggcgg cggca

45

&lt;210&gt; 10

&lt;211&gt; 19

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 10

Met Ala Ala Ala Ala Ala Ala Ala Ala Ala Gly Ala Ala Gly Gly

1

5

10

15

Arg Gly Ser

&lt;210&gt; 11

&lt;211&gt; 16

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 11

Met Ala Ala Ala Ala Ala Ala Ala Ala Ala Gly Ala Ala Gly

1

5

10

15

<210> 12  
 <211> 17  
 <212> PRT  
 <213> Homo sapiens

<400> 12  
 Met Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Gly Ala Ala  
   1                  5                  10                  15  
 Gly

<210> 13  
 <211> 18  
 <212> PRT  
 <213> Homo sapiens

<400> 13  
 Met Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Gly Ala  
   1                  5                  10                  15  
 Ala Gly

<210> 14  
 <211> 19  
 <212> PRT  
 <213> Homo sapiens

<400> 14  
 Met Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Gly  
   1                  5                  10                  15  
 Ala Ala Gly

<210> 15  
 <211> 20  
 <212> PRT  
 <213> Homo sapiens

<400> 15  
 Met Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala  
   1                  5                  10                  15  
 Gly Ala Ala Gly  
                   20

<210> 16  
 <211> 21  
 <212> PRT  
 <213> Homo sapiens

<400> 16  
 Met Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala  
   1                  5                  10                  15  
 Ala Gly Ala Ala Gly  
                   20

<210> 17  
 <211> 22  
 <212> PRT  
 <213> Homo sapiens

<400> 17  
 Met Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala  
   1                  5                  10                  15  
 Ala Ala Gly Ala Ala Gly  
                   20

<210> 18  
 <211> 6002  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (4616)...(4616)  
 <223> n= A,T,C, or G

<400> 18  
 aatgaagggtg gacacccaaa tagccccaat acaaatgcct gttcaatcaa ccaaacatct 60  
 aagcagcaca tctatgtggt agcatattgc caggccgtga gactgcgaat ataaatagga 120  
 accgcccctc atctgcaggc gctcacaacc tagttagcaa acagtaaaac aattaagcgc 180  
 gccgtggaca taggcccact tgtcctggga aatgagggga agctgggggt tgcagtgggt 240  
 tgattgaagg gggactacat gttagaggca cagactgggt gcaggtagac ccaaaggaac 300  
 gagaagagtg gaaggaaaca acatccacaa agtaaccaca tgctggcgta tcgaaggccg 360  
 tgatttacgg ttttgagact ttacctcgcc agcaaaaggg ggccagtctg ttagcgggtg 420  
 agattggagg ggtgacattg gaagctgtcc aggaaaaaga aaatggaact ggggagcaga 480  
 aggcctacgc aagagggcgg gacagacagg acttgtgact agtagctctg gactgaggaa 540  
 tctcctctgc tttctgggtg gggagagcta gtggatgatg gtgccataa cctggatggg 600  
 gaaagtaagc tccctcctgg aatgcttcat tcacaacctc cattttcagc aacatcccat 660  
 ctactggtgc ttcctggtcg agatacaagt ttctgaaac tgctgctctg ttttgggct 720  
 caccggcca acagctcact agctggcaag cagtagtatc aagatggcgg cccctagga 780  
 ctggctagtc atgtgacctc gggtttccca agtttgaagc ccggcagtc tttcgggggc 840  
 aaggttcacc tgtcacgaaa cgagtgtcac cccttcgact ctcgcaagcc aatcggcatc 900  
 tgagactggg ccactgcggt gaggcgatcg gaagattggt cctttccagt cgcctagcta 960  
 gggccaatca cggagcgtcc catacttcgc gggcccgccc gtaggcggg gagaagcagg 1020  
 aatatcgta cagcgtggcg gtattattac ctaaggactc gataggaggt gggacgcgtg 1080  
 ttgattgaca ggcagatttc cctaccggga tttgagaatt tggcgagtg cccgccttag 1140  
 aggtgcgctt atttgattgc caagtaatat tcccaatgg agtactagct catggtgacg 1200  
 ggcaggcagc ttgagctaag gagtcctccg tggccggcgc agctctccac atgccgggcg 1260  
 gcgggcccc a gtctgagcgg cgatggcggc ggcggcgccg gcggcagcag cagcgggggc 1320  
 tgcgggcggg cggggctccg ggccggggcg gcggcgccat cttgtgcccg gggccgggtg 1380  
 ggaggccggg gagggggccc cggggggcgc aggggactac gggaaacggc tggagtctga 1440  
 ggaactggag cctgaggagc tgctgctgga gcccgagccg gagcccagc ccgaagagga 1500  
 gccgccccg ccccgcgccc ccccgggagc tccggggcct gggcctggtt cgggagcccc 1560  
 cggcagccaa gaggaggagg aggagccggg actggctcag ggtgacccgg gggacggcgc 1620  
 cattgaggac ccggtgagga aggaggcgga gcgagcaggc cggcggctgg cgcgtcactg 1680  
 gagggccaga gctcgggcga gcggtggcag gcggggggtg gggttgggcg ggggaataacg 1740  
 tggctggggc gggctcgggc ggggatgggt cagcgatcac tacaaggggc ccgactggct 1800  
 tgattcgggc gtcacgggtg cctagtgttg ttctagagag ggtagctttt cttttatcac 1860  
 gaccctcgca tggggcgagg gaaatggccg agcatggctg aggcgcgctc tggccgagag 1920  
 cagggcacag ccctgcgtt ggttcctctt aagctgtcct ccataaccct cccacttata 1980  
 ttaggagctg gaagctatca aagctcgagt cagggaagat gaggaagaag ctgagaagct 2040  
 aaaggagcta cagaacgagg tagagaagca gatgaatatg agtccacctc caggcaatgc 2100  
 tgagtaactg gcggttgac gcggagcccc ggttctcggg ttggaagggt tgtggggagg 2160

atggggaatg	tgggggttaga	tactcggcac	cctggagctg	cttgtctgag	ctattatgac	2220
tgtgccgcgg	tcatagtcgg	ttgtgtgttc	ctctgacctt	tgtgaggcag	aactgatatt	2280
ttgggtggtg	tagccttgtg	cctccctttg	tcctgttata	attgtgttgc	tctttattct	2340
tagtctacgt	ctatccttct	ttggtagagg	ttgctgtctc	gcatttgacc	ttcaaatcta	2400
atagtttttc	ctccaattgg	agacgcctta	ggattctaag	agaaagcaag	ctggaagggg	2460
tttccccttt	aaatttctaga	aatgtggagt	ctcagcccac	ttaattttgc	tcactcttaa	2520
aagcatttca	accaaagcca	ttcattaggg	atttgatttg	gagggcagga	gggattccta	2580
tactgtttta	agtgtgtatt	aattcctttc	atttatcgaa	ttatttagtg	agtaacctgc	2640
tatgcactag	gcactattct	cggcttgtgg	gtacagcagg	gaacagcaca	gaccaaaatc	2700
tttgccttca	ctgagcttat	gggatagtgc	tgggtggtga	agtgcacat	attggtcaag	2760
tagaaaacaa	gtgtgtggtt	tttgtaaaaa	attatttttt	cctgatagct	ggccccgtga	2820
tcatgtccat	tgaggagaag	atggaggctg	atgcccgttc	catctatgtt	ggcaatgtga	2880
cgtactgggg	ctctgactgg	ggttgggggc	aagtcttctt	tttggggaat	tatttaaatg	2940
tcctgaaaga	acatctccgg	gatagatgtg	gttttgggtg	tggagggagt	gtgggaagga	3000
ggttaaagg	aatggaatga	tcagtaatca	gcaaaggctc	tgggtttgga	aggaaaagag	3060
attaattcct	caaattacca	gatttcatgt	gctttggtgt	atgatggccc	agaccaaaag	3120
ctcgggaggg	ttctttttag	acaggaattt	gcctggtgcc	tgtgaaattt	ttctcctctc	3180
atcagggtga	ctatggtgca	acagcagaag	agctggaagc	tcactttcat	ggctgtggtt	3240
cagtcaaccg	tgttaccata	ctgtgtgaca	aatttagtgg	ccatcccaaa	ggtaaagtaa	3300
aggggagtaa	gttgagataa	tttaaattac	agtgtacaaa	tagataaaatt	atgttttata	3360
ttgagcagta	agttatttgg	tgtaaacaca	ggtgatctgt	gtcattttaag	atcatggcat	3420
taatgttgat	atatcaggag	ttgcacctaa	atgtcttcag	aggccagata	acaaaaatga	3480
aggctagatg	tgggtgggat	tacgaactag	aaggggaggg	gcagcttcta	cttggcctat	3540
tatggcatat	ggaaatttcag	gccctgtgtg	tcttattttt	acaaatttca	aagagtagct	3600
ggaaatttta	aaattttaa	gatttcgaat	gattgaaatt	ttccatttag	aagaattttg	3660
acaaaataaaa	aatataactg	cattgtagcc	caaaacgaag	catgcctgca	ggttgaattt	3720
gacctgtgag	gtatttgtaa	cctcagagag	atacaatgac	aattcttttc	aggtttgcgt	3780
atataagatt	ctcagacaaa	gagtcagtga	ggacttcctt	ggccttagat	gagtccctat	3840
ttagaggaag	gcaaatacaag	gtaagcctat	gtccattgct	gttctagtgt	tgtataaaact	3900
ctccagggtg	cctttaaggc	tatcatttgt	tcactctctga	ctcagggtgat	cccaaaacga	3960
accaacagag	caggcatcag	cacaacagag	cggggttttc	cacgagcccg	ctaccgcgcc	4020
cggaccacca	actacaacag	ctcccgtctt	cgattctaca	gtggttttaa	cagcagcccc	4080
cggggtcgcg	tctacaggtc	aggatagatg	ggctgtcctt	ctttcccccg	cctccccgtga	4140
gccccgtatg	cttcctcctc	tctggtctga	ggaacctccc	tccccccacc	cctccccgtg	4200
gtcttcagga	actttgtctc	ctgcctgtgc	aggttgagga	aggtagtgtc	aggccaggcc	4260
agaaggcagc	ctcatcatct	tttctgcagt	agaaattggg	gataagggtc	gcacccctcc	4320
cttggttcaa	agaggcttcc	acccccagcc	ttttttttct	tgggagttgg	tggcatttga	4380
aggtgtttgc	ggacaaaact	gggaggaaca	gggcctccag	gaagttgaaa	gcactgcttg	4440
gacatttgtt	acttttttctg	gagttaggga	gggattgaag	actgaacctc	ccttggaaga	4500
ataccaggag	ctagctagtt	gatcctccca	agagccttgt	gggaggattt	tgagataact	4560
attctttatt	tgagccagtc	ttgcaagggt	aacttctcac	tgggcctagt	gtggtnccca	4620
ggtttttgcc	ttgcttcact	tctgtctcta	catttaaata	gacgggttag	gcataataaac	4680
cttggctttt	cataagctct	acctgcctat	ccccaggagt	tagggaggat	ctatttgtga	4740
aggccctagg	gtttaaaaac	tgtggaggac	tgaaaaactg	gataaaaaagg	gggtcctttt	4800
ccttgcccct	gtctctcact	cagatgcgct	tctttttcgc	cactgtttgg	caaagttttc	4860
tgtaagccc	ccctccccct	gccccagttc	tcccagggtc	gttactattt	ctgggatcat	4920
ggggtcggtt	ttaggacact	tgaacacttc	ttttccccc	ttcccttcac	agtaactggg	4980
gcagggcgct	acggggaggg	gcttgtactg	aactatctag	tgatcacgtt	aacacctaac	5040
tctccttctt	tcttcagggg	gccgggctag	agcgacatca	tggatttccc	cttactaaaa	5100
aaagtgtgta	ttaggaggag	agagaggaaa	aaaaaggagg	agaaggaaaa	aaaaaagaat	5160
taaaaaaaaa	aaaaagaaaa	acagaagatg	accttgatgg	aaaaaaaaata	ttttttaaaa	5220
aaaagatata	ctgtggaagg	ggggagaatc	ccataactaa	ctgctgagga	gggacctgct	5280
ttggggagta	ggggaaggcc	cagggagtgg	ggcagggggc	tgcttattca	ctctggggat	5340
tcgccatgga	cacgtctcaa	ctgcgcaagc	tgcttgccca	tgtttccctg	cccccttcac	5400
ccccttgggc	ctgctcaagg	gtagggtggc	gtgggtggtg	ggagggtttt	ttttaccag	5460
ggctctggaa	ggacacaaaa	ctgttctgct	tgttaccttc	cctcccgctc	tctcctcgcc	5520
tttcacagtc	ccctcctgcc	tgctcctgtc	cagccaggtc	taccaccac	cccaccttc	5580
tttctccggc	tccctgcccc	tccagattgc	ctgggtgatct	attttgtttc	cttttgtgtt	5640
tctttttctg	ttttgagtgt	ctttctttgc	aggtttctgt	agccggaaga	tctccgttcc	5700

```

gctcccagcg gctccagtgt aaattcccct tccccctggg gaaatgcact accttgtttt 5760
gggggggttta ggggtgtttt tgtttttcag ttgttttggt tttttgtttt ttttttttcc 5820
tttgccctttt ttccctttta tttggaggga atgggaggaa gtgggaacag ggaggtggga 5880
ggtggattttt gtttattttt ttagctcatt tccaggggtg ggaatttttt tttaatatgt 5940
gtcatgaata aagttgtttt tgaaaataaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 6000
aa                                                    6002

```

```

<210> 19
<211> 19
<212> DNA
<213> Artificial Sequence

```

```

<220>
<223> oligonucleotide

```

```

<400> 19
cgcagtgcc cgccttaga 19

```

```

<210> 20
<211> 24
<212> DNA
<213> Artificial Sequence

```

```

<220>
<223> oligonucleotide

```

```

<400> 20
acaagatggc gccgccgccc cggc 24

```

```

<210> 21
<211> 23
<212> DNA
<213> Artificial Sequence

```

```

<220>
<223> oligonucleotide

```

```

<400> 21
cgcagtgcc cgccttagag gtg 23

```